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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,938	06/15/2006	Jordi Tormo I Blasco	5000-0178PUS1	9741
2292 7590 07/02/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER MURRAY, JEFFREY H	
			ART UNIT 1609	PAPER NUMBER
			NOTIFICATION DATE 07/02/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/582,938

Applicant(s)

TORMO I BLASCO ET AL.

Examiner

Jeffrey H. Murray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/15/2006 and 7/14/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This action is in response to a response to a restriction requirement filed on 5/30/2007. Applicants' election of Group I is acknowledged. The applicant has selected their election expressly with traverse. There are twenty claims pending and nineteen under consideration. Claim 12 is withdrawn from consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. This is the first action on the merits. The application concerns some 6-pentafluorophenyltriazolopyrimidines and processes and intermediates for their preparation, compositions comprising them and their use for controlling phytopathogenic harmful fungi are described.
2. Applicants traversal is found persuasive to the extent that claims 1-11 and 13-20 should be grouped together. Claim 12 is withdrawn from further consideration as being drawn to a nonelected group.

Note that compounds, corresponding compositions, a method of use and a process of making that are of the same scope are considered to form a single inventive concept under PCT Rule 13.1, 37 CFR 1.475(d). Claim 12 is not so linked as to form a single inventive concept. The claim is so diverse in scope and requires a separate search and raises different issues of patentability.

3. Applicant argues that the subject matter of Group V is closely related to Group I and therefore should be examined together. This argument is found to not be persuasive. The groups should not be examined together because as just explained previously, there is no special

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technical feature of the compound or composition of formula I. Claim 7 is not so linked as to form a single inventive concept. The claim is so diverse in scope and requires a separate search and raises different issues of patentability. In this instance, one of the groups is directed towards "a seed." A seed is a composition which is not "closely related" to the compound of Claim 1.

Priority

5. Acknowledgment is made of Applicant's claim for foreign priority. This application is a non-provisional application, 10/582,938, filed June 15, 2006 which is a national stage entry of PCT/EP03/12277, filed December 14, 2004, which claims the benefit of foreign priority to DE 103594452.3, filed December 17, 2003.

Specification

6. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

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(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

7. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any of the errors of which applicant may become aware of in the specification.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claim 1-2, 6, 9-11, 13, 16, and 20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling where X is a cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy, or C₁-C₂-haloalkoxy group, it does not reasonably provide enablement where X is a C₃-C₄-alkenyloxy or C₃-C₄-haloalkenyloxy group. The specification does not enable any person skilled

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in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The test of enablement is whether one skilled in the art could make and use the claimed invention from the disclosures in the application coupled with information known in the art without undue experimentation. (United States v. Teletronics Inc., 8 USPQ2d 1217 (Fed. Cir. 1988)). Whether undue experimentation is needed is not based on a single factor, but rather a conclusion reached by weighing many factors (See Ex parte Forman 230 USPQ 546 (Bd. Pat. App. & Inter. 1986) and In re Wands, 8 USPQ2d 1400 (Fed. Cir. 1988).

These factors include the following:

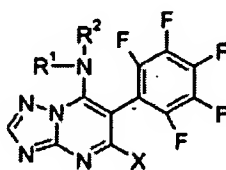
1) *Amount of guidance provided by Applicant.* While the Applicant has demonstrated within the application how to make a select number of 6-pentafluorophenyltriazolopyrimidine derivatives to be used as antifungal agents, the generic Claim 1 is massive, and only a miniscule fraction of these compounds are discussed and their syntheses shown. In the specification, page 21-23 describes the process for assembling the core structure in this application, using four steps to synthesize a 6-pentafluorophenyltriazolopyrimidine derivative. The specification gives a description of the synthesis of a single compound and leads you to believe this procedure will work with all of the compounds attempted to be claimed in the application. This particular compound can be synthesized through this procedure, but it is quite clear that many others cannot. No reference is made as to how to synthesize any of the other compound combinations which are claimed in the present application.

2) *Unpredictability in the art.* It is well established that "the scope of enablement varies inversely with the degree of unpredictability of the factors involved", and physiological activity

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is generally considered to be an unpredictable factor. (USPQ 18, 24 (CCPA 1970). See *In re Fisher*, 427 F.2d 833, 839, 166. Claim 1 lists a Markush group for X of the 6-pentafluorophenyl-triazolopyrimidines. On page 21-23 of the specification, the procedure shows 4 reactions, which forms three intermediates and then the final compound of a 6-pentafluorophenyltriazolopyrimidines. Example 3 of these reactions involves using phosphorous oxychloride, or POCl₃, as a reagent. This reaction takes place with the X group already in place on the final compound precursor. It is known in organic chemistry that phosphorous oxychloride is a harsh chlorinating agent that may often have side reactions. Among the side reactions that may occur are reactions with: amide (formyl) groups, alkenyl or alkynyl groups, carbonyl groups, and especially hydroxyl groups, which can be dehydrated, phosphorylated or halogenated. This reagent results in the C₃-C₄-alkenyloxy or C₃-C₄-haloalkenyloxy groups listed in Claim 1 of the current application as being not enabled as they will react in some way with this reagent to form an unwanted and more importantly, unclaimed compound.

3) *Scope of the claims.* The scope of the claims involve all of the millions of compounds of general formula (I):



where the X group is listed in Claim 1. Thus, the scope of claims is broad.

4) *Nature of the invention.* The nature of this invention relates generally to 6-pentafluorophenyltriazolopyrimidines, processes and intermediates for their preparation, compositions comprising them and their use for controlling harmful fungi.

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5) *Level of skill in the art.* The artisan using Applicants invention would be a botanist with a Ph.D. degree, and having several years of experience.

MPEP §2164.01 (a) states, "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. *In re Wright*, 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)." That conclusion is clearly justified here that Applicant is not enabled for making these compounds or compositions or treating the diseases mentioned.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. It is suggested to replace the phrase "6-pentafluorophenyltriazolopyrimidine" with the term "compound" in Claim 1 because the term "compound" along with the definitions of the variables fully defines the claimed compound. Not everyone calls the instant compounds 6-pentafluorophenyltriazolopyrimidines and confusions will be avoided.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 1-7, 9 and 10 are rejected under 35 U.S.C. 103 as being unpatentable over Pees et al., U.S. Patent 5,965,561 in view of Pfrengle et. al., U.S. Patent No. 6,020,338.

In the current application, applicants claim a compound with a 6-pentafluorophenyl-triazolopyrimidine ring core. On the triazolopyrimidine ring, in the 7-position is a substituted amino group and in the 5-position is a Markush group which could be a cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₃-C₄-alkenyloxy, C₁-C₂-haloalkoxy or C₃-C₄-haloalkenyloxy group.

The first reference, Pees et. al. teaches a compound with a substituted amino group in the 7-position and a 6-pentafluorophenyltriazolopyrimidine ring core. In the 5-position on this triazolopyrimidine ring is a Markush group which could be a halogen or a substituted amino group. What this reference is lacking is where the 5-position of the triazolopyrimidine ring can be a cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₃-C₄-alkenyloxy, C₁-C₂-haloalkoxy or C₃-C₄-haloalkenyloxy group.

The second reference, Pfrengle et. al. again teaches a compound with a 6-pentafluorophenyltriazolopyrimidine ring core. In the 5-position on this triazolopyrimidine ring is a Markush group which can be the appropriate cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₃-C₄-

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alkenyloxy, C₁-C₂-haloalkoxy or C₃-C₄-haloalkenyloxy group. However, this reference is lacking the 7-position substituted amino group.

Both of the prior art references suggest that these compounds would have a use for controlling phytopathogenic harmful fungi. Therefore, there is proper motivation to alter the 5-chloro position of Pees et. al. and replace it with the cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₃-C₄-alkenyloxy, C₁-C₂-haloalkoxy or C₃-C₄-haloalkenyloxy groups of Pfrengle et. al. to attempt to obtain improved properties.

A compound need not be a homolog or isomer of a prior art compound in order to be susceptible to a rejection based on structural obviousness. Structural relationships may provide the requisite motivation or suggest to modify one compound to obtain another compounds. For example, one compound may suggest its homologs, because homologs often have similar properties, and, therefore, chemists of ordinary skill would ordinarily contemplate making them to try to obtain compounds with improved properties, or merely to satisfy their production goals.

Double Patenting

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference

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claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

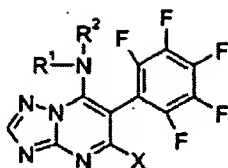
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 1-8, 11, and 14-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/579,144 in view of *ex parte Dole*.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

17. The current application recites a variety of specific 6-pentafluorophenyltriazolopyrimidines for antifungal activity. In this application there is the presence of compound with the general formula:

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where R_1 and R_2 can be a number of different residue groups and $X = C_1$ - C_4 -alkyl, C_1 - C_4 -alkoxy, C_1 - C_2 -haloalkoxy, C_3 - C_4 -alkenyloxy or a C_3 - C_4 -haloalkenyloxy group.

The copending application, '144, also teaches 6-pentafluorophenyltriazolopyrimidine derivatives for antifungal activity. The core compound has its R_1 , R_2 , and X groups read on the R_1 , R_2 , and X groups of the current application. Where the copending application is lacking is that it only contains a 2,4,6-trifluorophenyl ring substitution. The current application contains a 2,3,4,5,6-pentafluorophenyl ring substitution. There is motivation to any skilled chemist to replace a hydrogen with a fluorine on an already partially fluorinated compound may enhance activity. It would be apparent to a chemist of ordinary skill in the art that there could be further substitution of the two remaining hydrogens on the phenyl ring with fluorine moieties of the current application. It would be expected that the activity of the compound would gradually vary as more hydrogen is replaced by fluorine. Accordingly, the requirement that there be a showing that the claimed compound has unexpectedly advantageous properties relative to the less completely fluorinated compound of the reference is the standard. See *Ex parte Dole*, 119 USPQ 260 (Bd. Pat. App. & Int. 1957).

It would have been obvious to one skilled in the arts at the time of the invention to be motivated to replace a hydrogen moiety in the '144 with an additional fluorine group. '144 combined with *ex parte Dole* show the necessary teachings that suggest replacing an additional hydrogen moiety, and one would have been motivated to substitute in the fluorine group to attempt to enhance activity and afford a positive benefit from the replacement. Therefore, in the

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absence of a showing of new and unexpected properties, applicant's 6-pentafluorophenyltriazolo-pyrimidine is not seen to be patentably distinguish over the 2,4,6-trifluorophenyltriazolo-pyrimidine compound in the '144 patent.

The same arguments above can also be used against the current application in regards to copending Publication Application Nos. 2006/0135538, 2004/0162428, and 2005/0090665.

18. The examiner has noted a large number of patent applications by applicant in regards to this specific subject matter. Examiner wishes to remind applicant of his/her duty to disclose all relevant applications, patent publication applications and patents that are relevant to applicant's current application.

Conclusion

19. Claims 1-11 and 13-20 are rejected.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey H. Murray whose telephone number is 571-272-9023.

The examiner can normally be reached on M-F 7:30-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors, Cecilia Tsang can be reached at 571-272-0562 or Janet Andres can be reached at 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey H. Murray


JANET L. ANDRES
SUPERVISORY PATENT EXAMINER